Fact Sheets

SRS

Old F Area Seepage Basin

Background

The Old F-Area Seepage Basin (OFASB) is located northwest of the F Area perimeter fence. The basin is 300 feet long by 200 feet wide and is 13 feet deep. It is split into two compartments by a berm 10 feet high and 5 feet wide.

The OFASB was built in 1954 and received effluent from the F Area Separations canyon via a process sewer line, from startup in November 1954 to mid-May 1955. During its use, the basin received a variety of wastewaters from evaporators and laundry facilities and an unknown amount of chemicals. Approximately 9-14 million gallons of wastewater were discharged to the basin. For three months in 1969, spent nitric acid solutions used to etch depleted uranium were released to the basin.

Environmental Concerns

Four groundwater monitoring wells were installed around the basin to measure chemical and radionuclide constituents. Groundwater contaminants of concern are primarily tritium, iodine-129, and uranium. In 1986, 1988, and 1993, soil core samples were taken to measure chemical and radionuclide constituents. The primary soil contaminants are mercury, cesium-137, and cobalt-60.

Environmental Actions and Plans

In September 1998, SRS initiated remedial action activities in accordance with an approved Record of Decision (ROD). The scope of the action included in-situ solidification/stabilization of the basin and ditchline soils, the establishment of institutional controls over the abandoned pipeline and pipeline soils, and the removal and disposition of vegetation.

Ditchline soils were placed in the basin, and the contaminated soils were in-situ stabilized with a cement-based grout. Once the stabilization was completed, a low-permeability cover was placed over the basin.

SRS environmental professionals addressed the abandoned pipeline and contaminated soils adjacent to the pipeline with institutional controls. Institutional controls were established by posting signs at the waste unit and continuing to use SRS access controls to maintain the use of the site for industrial use only.

Vegetation in the basin was removed, chipped, and placed under the low-permeability cover. Chip disposition was approved as an Explanation of Significant Differences subsequent to the ROD.

Additionally, a Groundwater Mixing Zone (GWMZ) application was approved by the U.S. Environmental Protection Agency (EPA) and South Carolina Department of Health and Environmental Control (SCDHEC) to ensure that groundwater contamination remains at acceptable levels through defined monitoring requirements.

The remedial activities were completed in June 2000. A Post Construction Report was submitted to the USEPA and SCDHEC in August 2000, and was later approved by both regulatory agencies. The report documents the completion of the remedial activities and describes the post-closure maintenance. Natural attenuation of the groundwater continues to be evaluated through long-term monitoring requirements specified in the GWMZ application.